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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,057	07/21/2003	Kevin David McVeigh	516.0000/S-01049	8745

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EXAMINER
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PEZZUTO, HELEN LEE

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/831,057	MCVEIGH, KEVIN DAVID	
	<b>Examiner</b>	<b>Art Unit</b>	
	Helen L. Pezzuto	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/12/02</u> .   | 6) <input type="checkbox"/> Other: ____.                                    |

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**DETAILED ACTION**

Applicant's amendment to claims 5, 7, 9-11, 13, 16, 18-20, 22, 24-8 and the cancellation of claims 29-31 filed in the preliminary amendment on 5/4/01 is acknowledged. Currently, claims 1-28 are pending in this application.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6, 9-10, 13, 25, and 27-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Pons et al. (US-490) or Steckler (US-364).

US 4,101,490 to Pons et al. discloses methods of preparing polymerizable phosphoric acid ester emulsifiers and their utility as coating composition derived from emulsion polymerization. Applicable methods in preparing the phosphate esters include first reacting a chosen (meth)acrylic acid with a diol/alkylene oxide and subsequently react with a phosphating agent, inclusive of phosphorus pentoxide (col. 1, line 41 to col. 3, line 31).

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The hydroxyethyl methacrylate used in the working examples is reflective of the first reaction. The examples show the reaction of hydroxyethyl methacrylate with phosphorus pentoxide in the presence of hydroquinone. Thus, anticipating the recited product and process claims.

Similarly, US 3,855,364 to Steckler discloses process of making polymerizable mono and di-phosphate esters of hydroxyalkyl acrylates. The reference teaches first reacting (meth)acrylic acid with alkylene oxides (col. 2, lines 49-55), and the subsequent reaction of the resulting hydroxyalkyl (meth)acrylate with phosphorus pentoxide to form the polymerizable phosphate ester as claimed. Hydroquinone was used as a polymerization inhibitor in the working examples. Furthermore, the utility of the polymerized product as a coating was shown in Example 5. Hence, anticipating the instant claims.

3. Claims 1-6, 9-10, 13-15, 25 and 27-28 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 0458 245 A1.

EP-245 discloses an aqueous coating composition, comprising an acryl resin and a phosphate ester monomer. Prior art disclose preparing the phosphate ester monomer by first reacting (meth)acrylic acid with an alkylene oxide in the presence of a catalyst, and subsequently reacting the

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polyalkylene glycol ester with a conventional phosphating agent to form the phosphate ester monomer (commercially available as shown in the working examples) (page 3, lines 2-20). Polymerized coating/paint products were exemplified from emulsion polymerization process. Thus, anticipating the present claims.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims not applied in the 102(b) rejections set forth in paragraphs 2-3, are rejected under 35 U.S.C. 103(a) as being unpatentable over Pons et al. (US-490) or Steckler (US-364) or EP-245 for the reasons stated and further in view of Emmons et al. (US-532).

Prior art discussed above are directed to the production of polymerizable phosphate ester and their subsequent utility in coating composition. The references are silent regarding the use of the Lewis acid catalyst

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(i.e. boron trifluoride) in the alkoxylation step as expressed in the claims 14-17. Closely analogous US 3,689,532 to Emmons et al. specifically teaches the use of boron trifluoride in polyoxyalkylation processes and the subsequent formation of carboxylic acid ester, including the instant phosphorous ester in phosphate and/or salt form as expressed in claims 11-12. Accordingly, it would have been obvious to one skilled in the art to perform the alkoxylation step in the presence of boron trifluoride catalyst, motivated by the reasonable expectation of success as taught in analogous US-532. Finally, prior art discussed are silent regarding the amount of propylene oxide as well as the sequence of catalyst addition in the alkoxylation. References do teach the use of ethylene, propylene and butylene oxide within the context of the instant claims. In the absence of comparative evidence to the contrary, the disclosure of the small genus of C2-C4 alkylene oxides renders the selection of relative proportions of the alkylene oxide readily envisaged by one skilled in the art by routine experimentation. It has been held that the discovery of optimum or workable ranges within prior art general conditions involves only routine

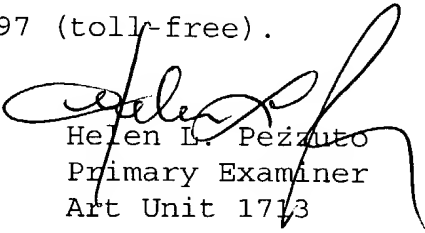
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skill in the art. Thus, rendering obvious the remaining claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen L. Pezzuto whose telephone number is (571) 272-1108. The examiner can normally be reached on 8 AM to 4 PM, Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Helen L. Pezzuto  
Primary Examiner  
Art Unit 1713